

# Master in Artificial Intelligence



## Algorithm Selection & Development III







# Purpose

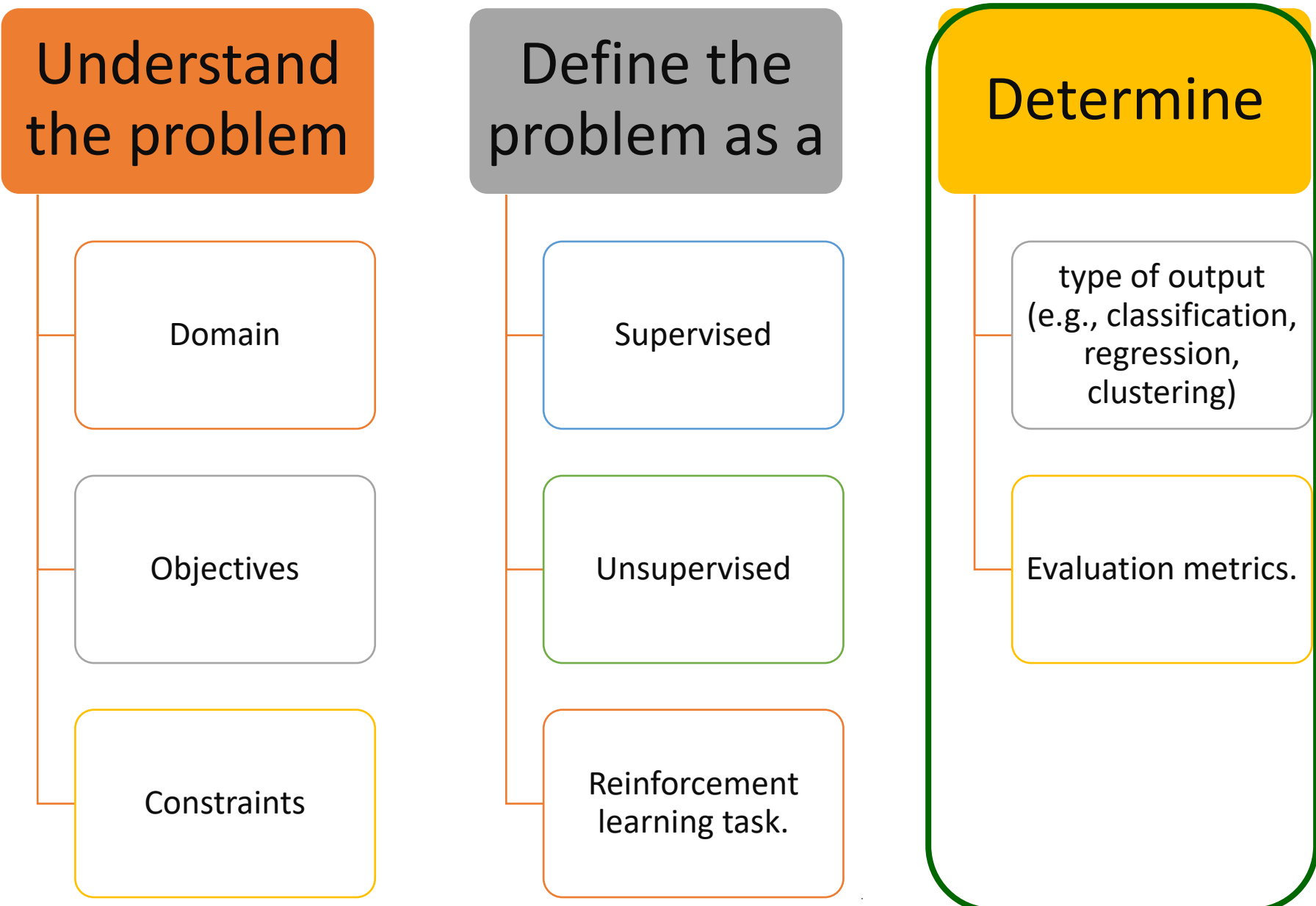
**The purpose of the section is to help you learn how to research, select, and develop appropriate algorithms to become a Successful Artificial Intelligence (AI) Engineer**

**At the end of this lecture, you will learn the following**

- **How to determine type of output and evaluation metrics- Regression and Clustering**



# How to determine type of output and evaluation metrics?



# Regression

Involve

Predicting

Continuous  
numerical

Values or  
quantities.

Examples

House price  
prediction

Stock price  
forecasting

Demand  
forecasting.

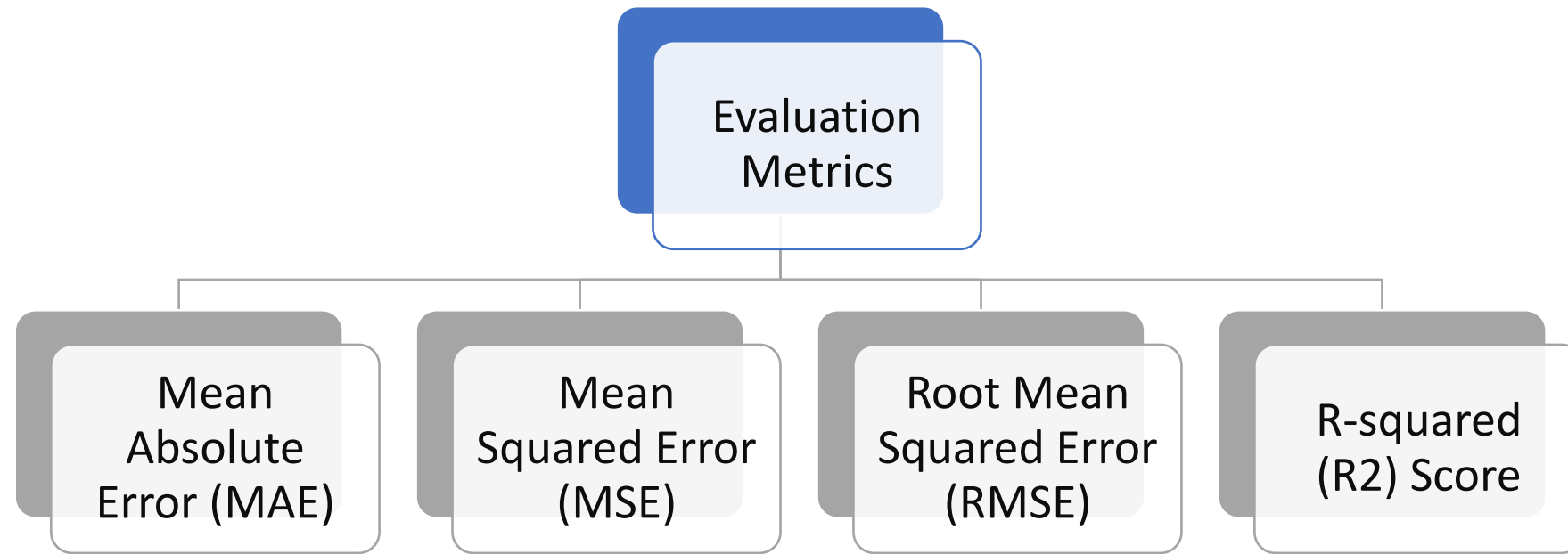
To  
determine

If the problem is a  
regression task

Check if the target  
variable consists  
of continuous  
numerical values



# Regression- Evaluation Metrics



# R-squared (R2) Score

## R2 (R-SQUARED)

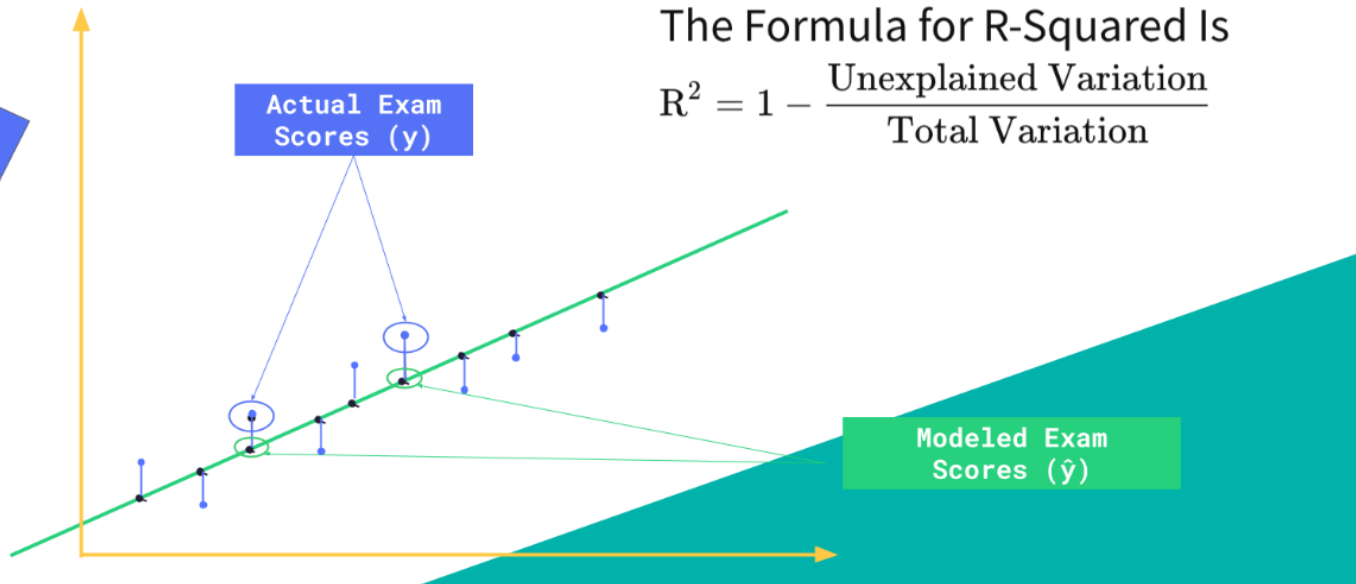


Percentage of observed variance from the mean that is explained (predicted) by the model

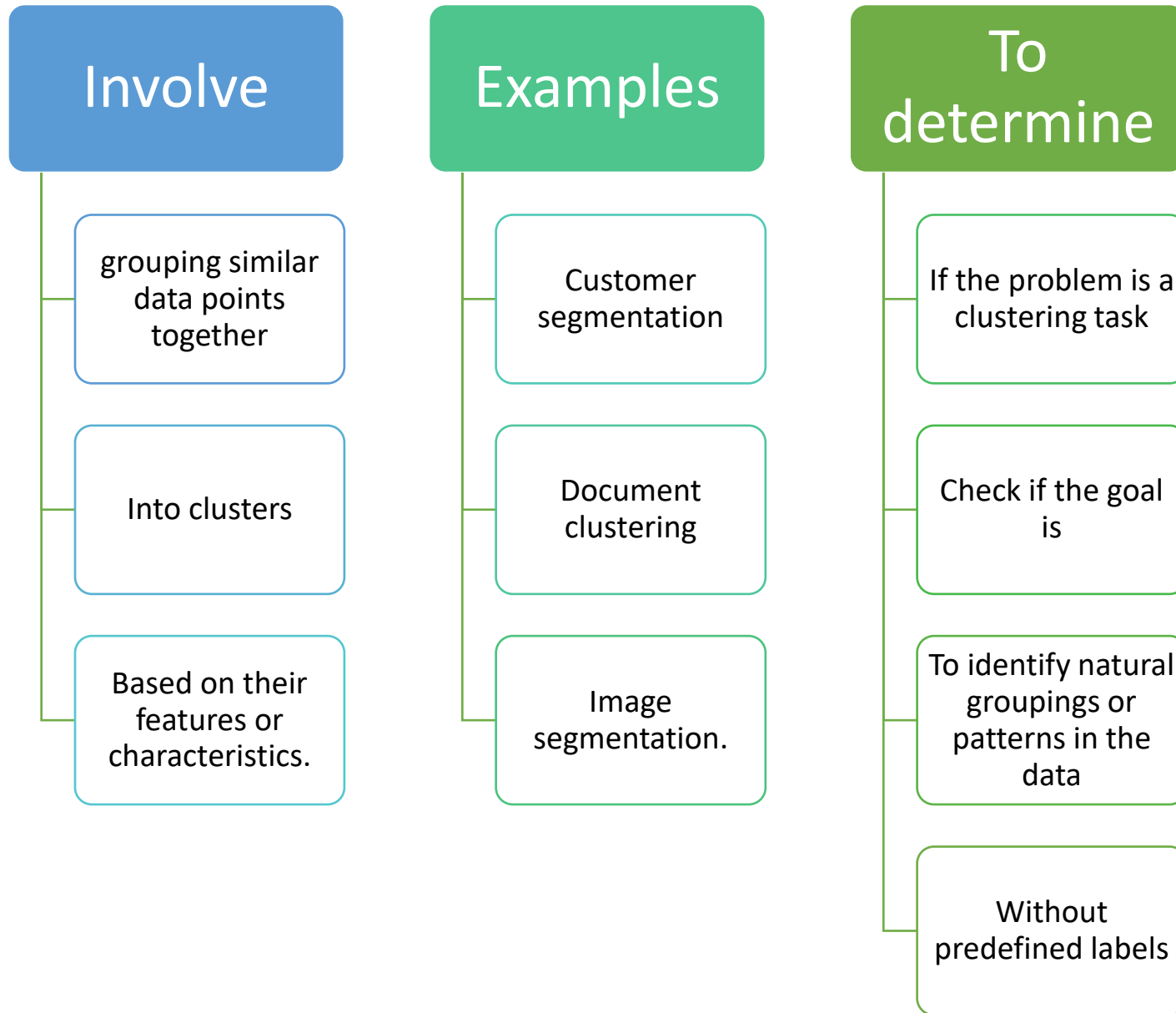
Always between 0 and 1  
(Usually, the higher the better)

The Formula for R-Squared Is

$$R^2 = 1 - \frac{\text{Unexplained Variation}}{\text{Total Variation}}$$

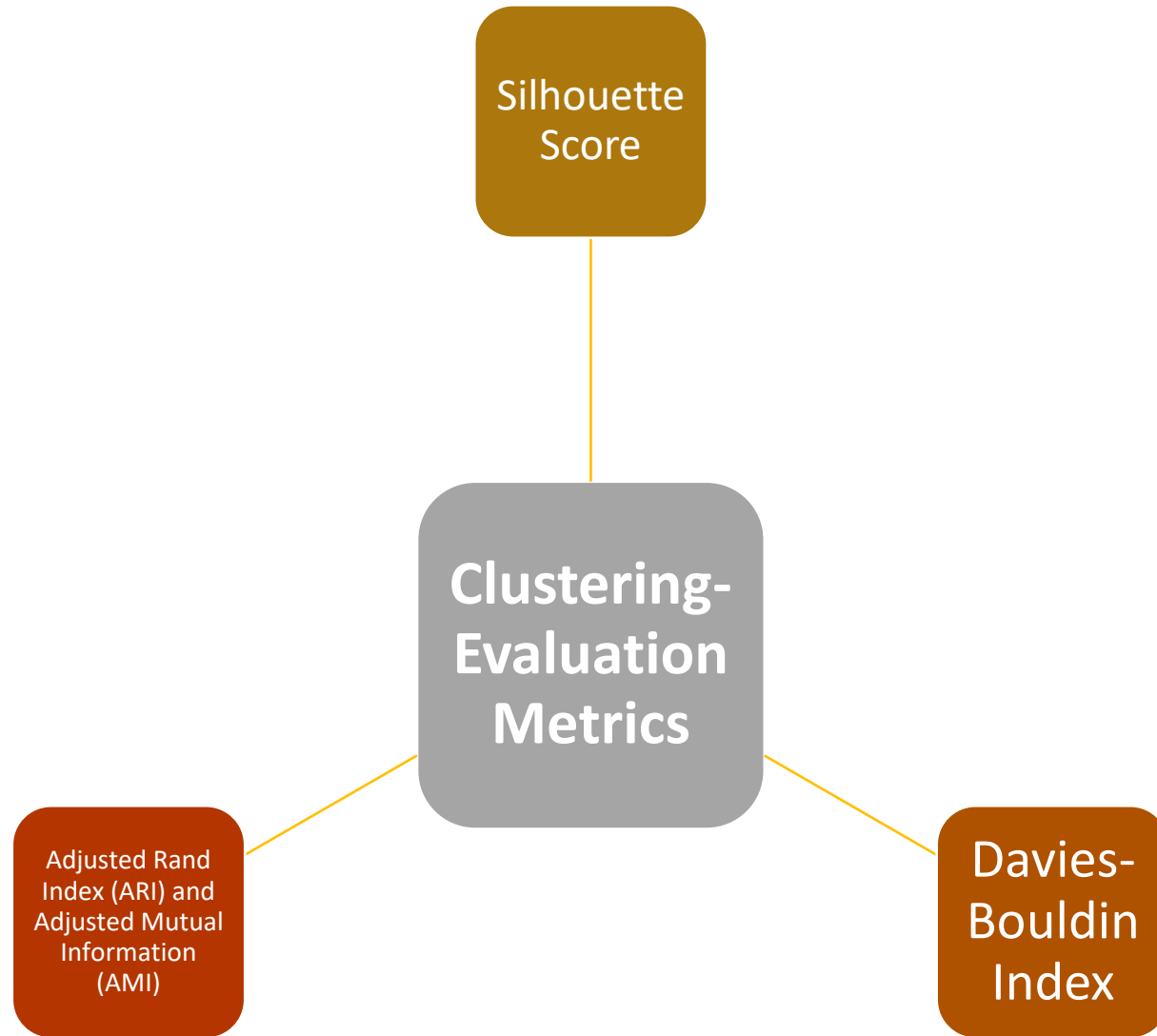


# Clustering



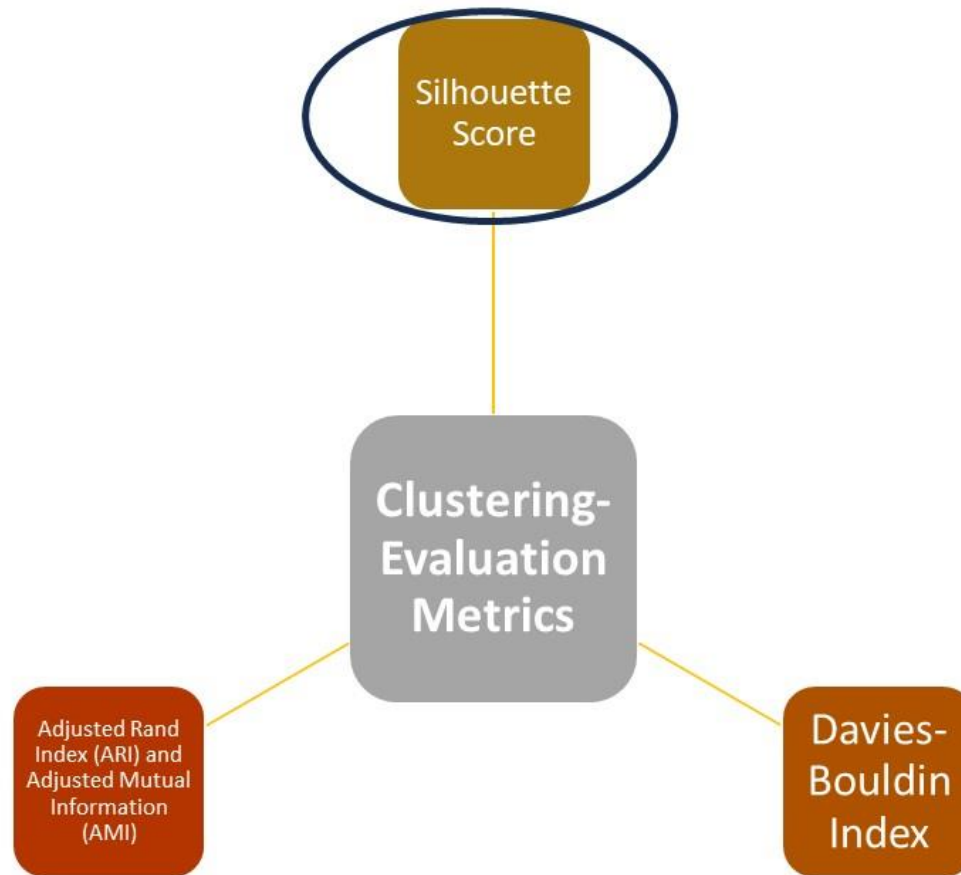


# Clustering- Evaluation Metrics



# What is next?

How does Silhouette Score measures how similar an object is to its own cluster compared to other clusters





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*Thank  
you*



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